

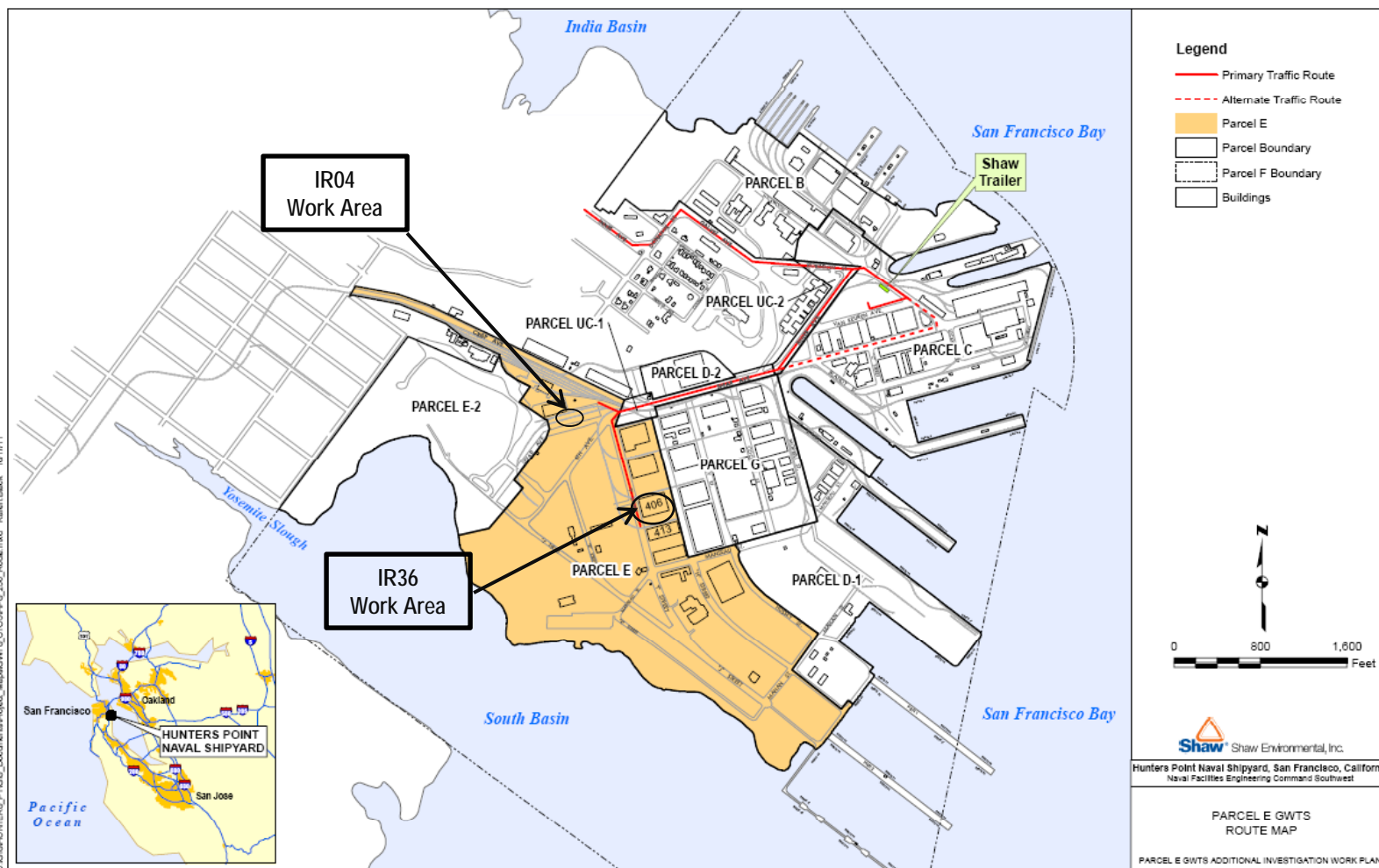


Groundwater Update Groundwater Monitoring Results for Parcel E Groundwater Treatability Study (GWTS)

**Hunters Point Naval Shipyard
BCT Meeting
March 28, 2013**



Parcel E GWTS Addendum Locations





Overview



- **This presentation provides an update on the GWTS wells sampled by the BGMP.**
- Completed the original scope of the GWTS in Parcel E
 - VOC Plume Characterization work at IR04, IR12, IR36, IR56 completed in November 2009
 - ZVI injections at IR12A completed in December 2009 and at IR36 (Building 406) completed in March 2010
 - Post-injection sampling completed in June 2010 (**with continued Sampling of selected GWTS wells by the BGMP**)
 - The final GWTS technical report was submitted in May 2011
- Soil vapor data indicated the potential presence of a vadose-zone source for TCE at IR04 and IR36, therefore, additional investigation work was conducted in these areas as an addendum to the GWTS.



Overview (Continued)



- The additional investigation conducted between July and September 2012 included the following:
 - Soil gas sampling to confirm conditions from the GWTS
 - Membrane interface probe (MIP) borings to screen for CVOC concentrations and soil texture.
 - Soil borings were drilled to collect soil and groundwater grab samples for laboratory analysis from the depths where the MIP detected the highest relative CVOC concentrations.
- The final GWTS technical report addendum was submitted in March 2013



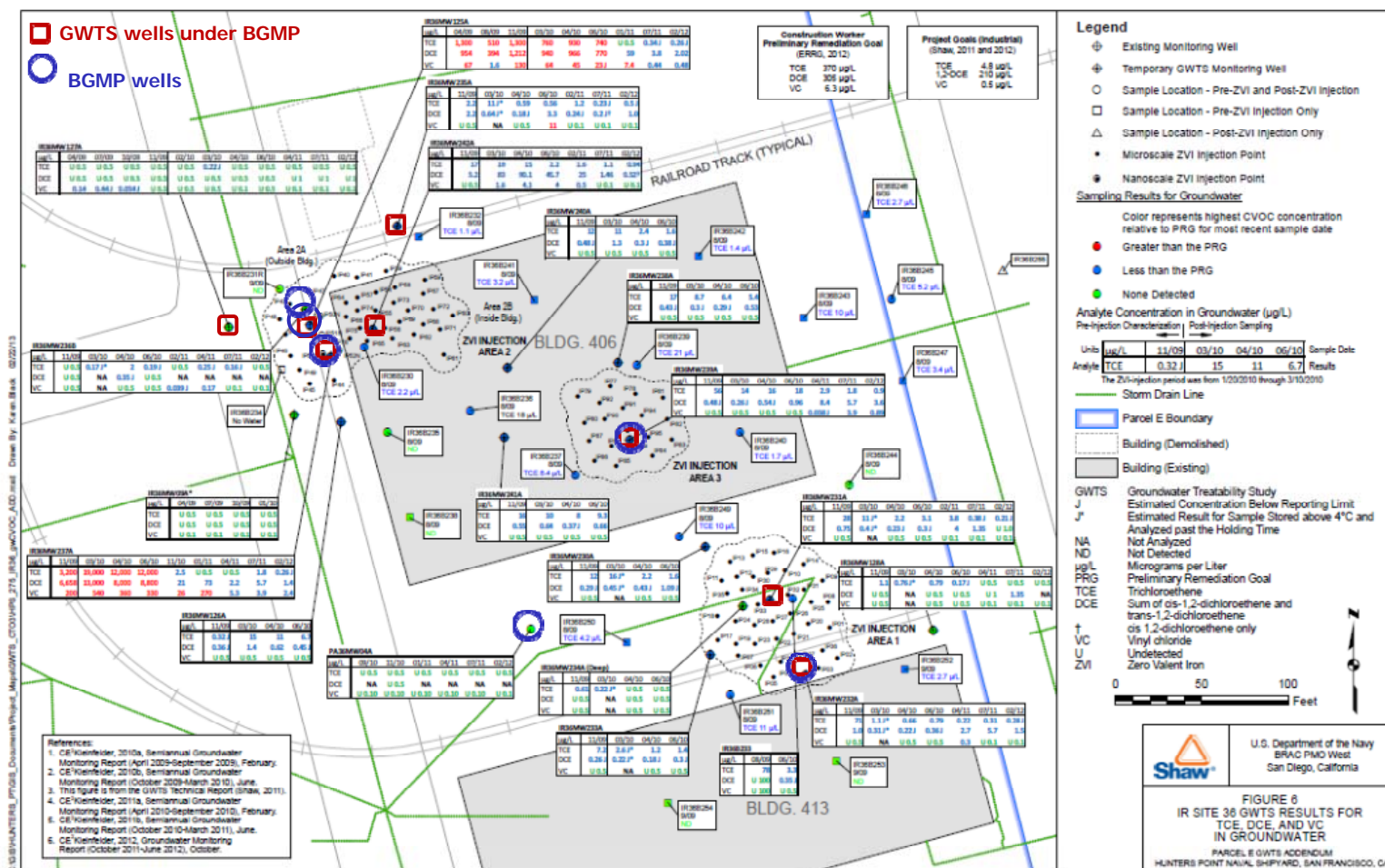
Summary of Results



- At both IR04 and IR36, vadose-zone sources were identified for the CVOCs detected in soil gas.
- At IR36 near the northwest corner of Building 406, the groundwater grab sample obtained from the Bay mud unit at a depth of 17 to 19 feet bgs contained TCE at nearly 10 % of it's solubility in water. This indicates the possible presence of DNAPL within the Bay Mud.
- The groundwater analytical data from GWTS wells sampled by the BGMP indicates that there has been no CVOC rebound at in the IR36 treatment areas.

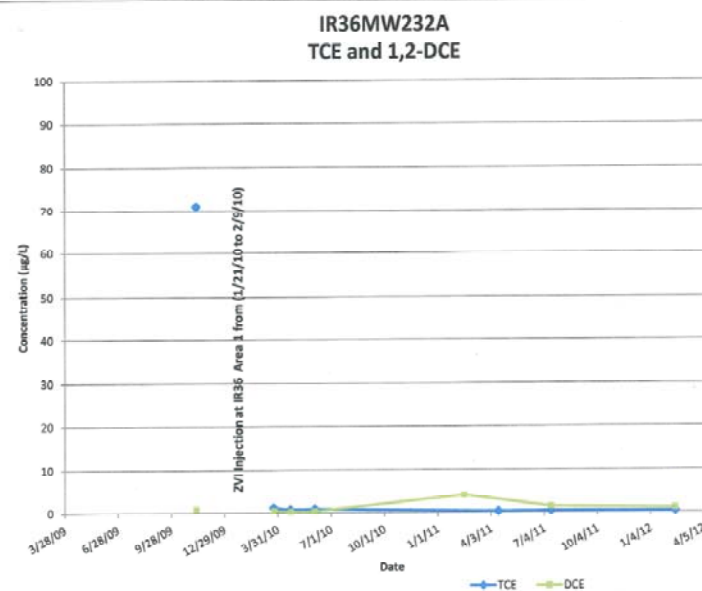
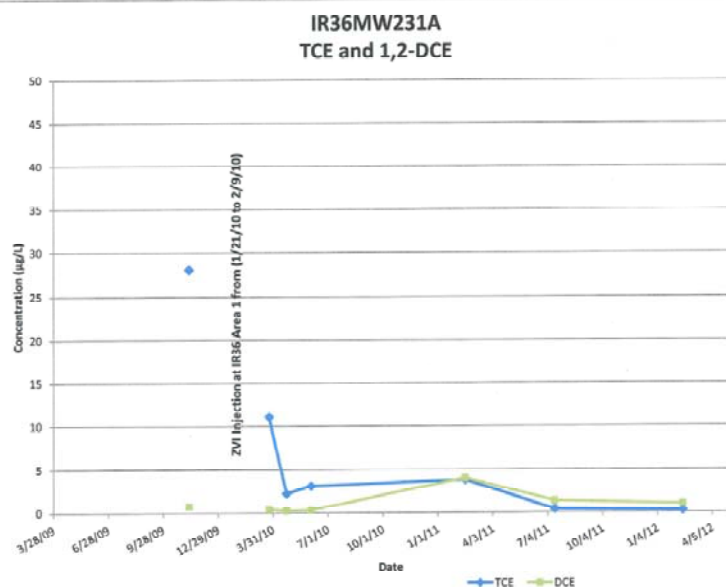


IR36 - ZVI Injection Locations and GWTS Analytical Data for Groundwater



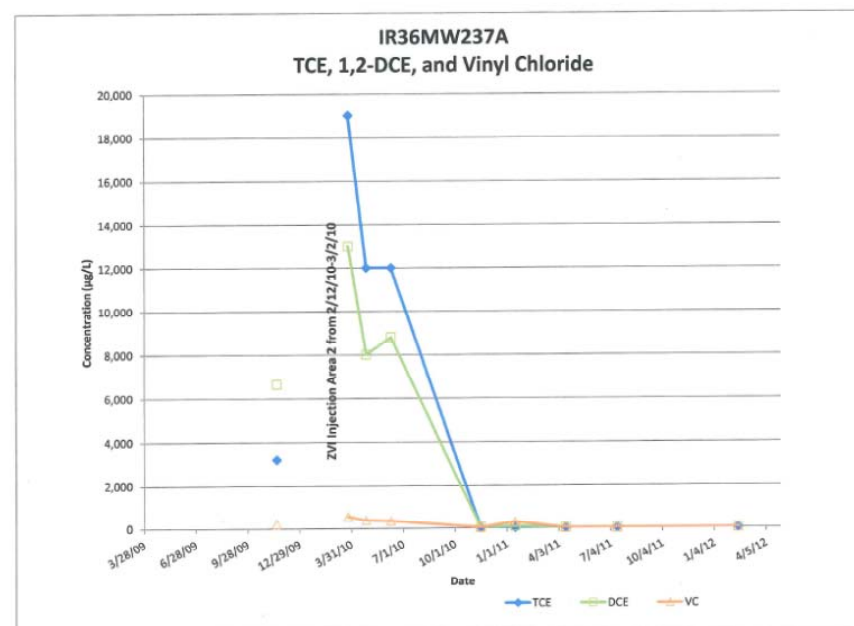
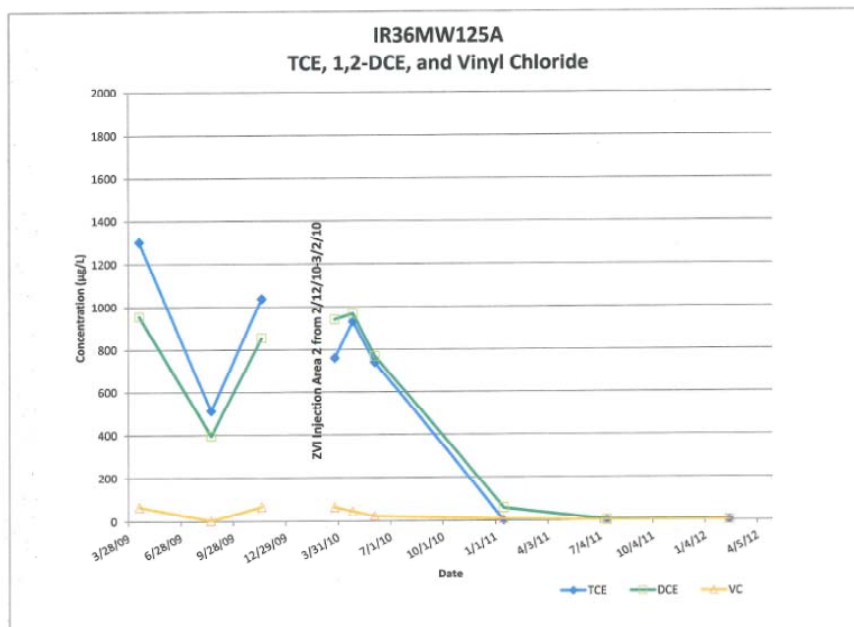


CVOC Concentration Trends in ZVI Injection Area 1 Wells



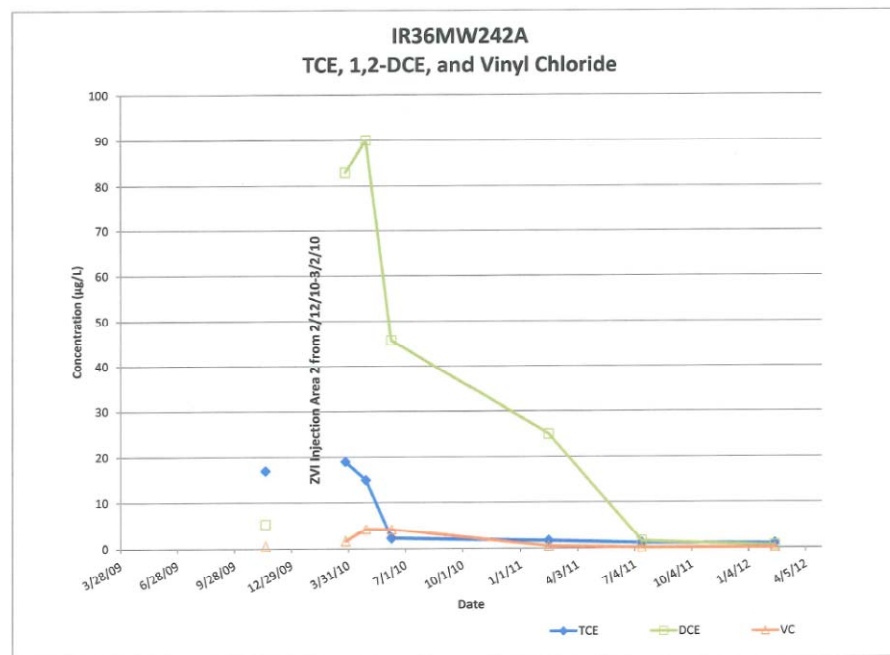
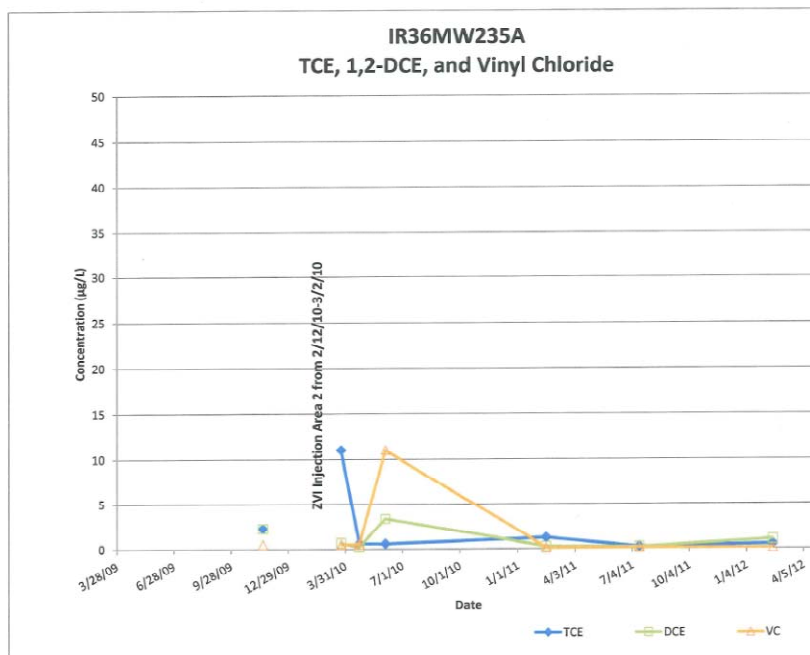


CVOC Concentration Trends in ZVI Injection Area 2 Wells



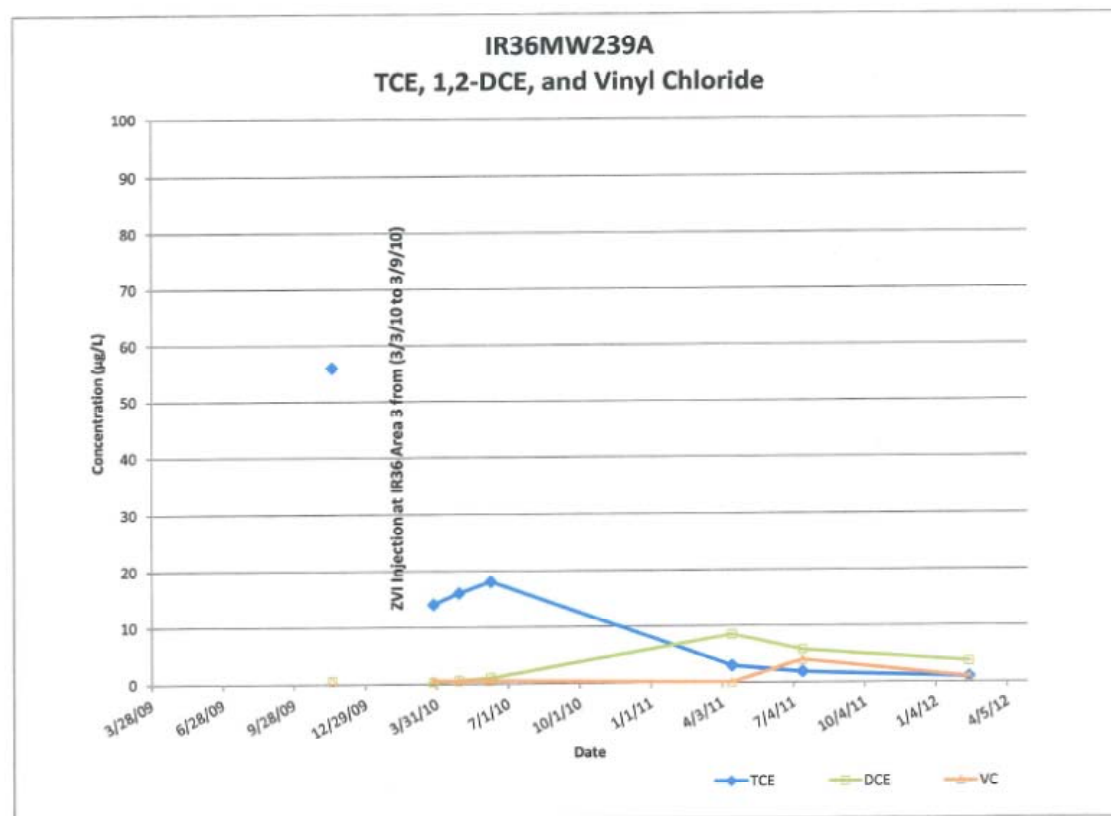


CVOC Concentration Trends in ZVI Injection Area 2 Wells





CVOC Concentration Trends in ZVI Injection Area 3 Well





E GWTS Well Recommendations



- Discontinue sampling GWTS wells IR36MW231A, IR36MW232A, IR36MW127A, IR36MW125A, IR36MW237A, IR36MW242A, IR36MW235A, and IR36MW239A at IR Site 36 for VOCs beyond what is conducted under the normal scope of the BGMP.
- Completed 8 rounds of sampling from 3/2010 to 3/2013
- 1Q13 sampling results are pending
- All COCs (TCE, DCE, VC) below action levels or ND and COCs not needed to be monitored under the BGMP for Plume Monitoring